COUNTY OF SAN LUIS OBISPO BOARD OF SUPERVISORS
AGENDA ITEM TRANSMITTAL

(1) DEPARTMENT	(2) MEETING DATE	(3) CONTACT/PHONE
Planning and Building	1/14/2014	James Caruso, Senior Planner/805 781-5702

(4) SUBJECT

Status report on a water conservation program for new development and a request for direction on the Upper Salinas-Las Tablas Resource Conservation District's proposals for an irrigated agriculture offset program pursuant to Ordinance No. 3246, an urgency ordinance covering new development overlying the Paso Robles Groundwater Basin. Districts 1 and 5.

(5) RECOMMENDED ACTION

It is recommended that the Board provide direction to the Department on the Upper Salinas-Las Tablas Resource Conservation District's proposals for an irrigated agriculture offset program in order to implement Ordinance 3246.

(6) FUNDING SOURCE(S)	(7) CURRENT YEAR FINANCIAL IMPACT	(8) ANNUAL FINANCIAL IMPACT	(9) BUDGETED?
Department Budget	$0.00	$0.00	No

(10) AGENDA PLACEMENT

{ } Consent **{ }** Presentation **{ }** Hearing (Time Est. ___) **{X}** Board Business (Time Est 60 Min)

(11) EXECUTED DOCUMENTS

{ } Resolutions **{ }** Contracts **{ }** Ordinances **{X}** N/A

(12) OUTLINE AGREEMENT REQUISITION NUMBER (OAR)	(13) BUDGET ADJUSTMENT REQUIRED?
N/A	BAR ID Number: **{ }** 4/5 Vote Required **{X}** N/A

(14) LOCATION MAP	(15) BUSINESS IMPACT STATEMENT?	(16) AGENDA ITEM HISTORY
N/A	No	**{X}** N/A Date: 10/1/13

(17) ADMINISTRATIVE OFFICE REVIEW

Lisa M. Howe

(18) SUPERVISOR DISTRICT(S)

District 1 - District 5 -

County of San Luis Obispo

TO: Board of Supervisors

FROM: Planning and Building / James Caruso, Senior Planner

VIA: Kami Griffin, Acting Director

DATE: 1/14/2014

SUBJECT: Status report on a water conservation program for new development and a request for direction on the Upper Salinas-Las Tablas Resource Conservation District's proposals for an irrigated agriculture offset program pursuant to Ordinance No. 3246, an urgency ordinance covering new development overlying the Paso Robles Groundwater Basin. Districts 1 and 5.

RECOMMENDATION

It is recommended that the Board provide direction to the Department on the Upper Salinas-Las Tablas Resource Conservation District's proposals for an irrigated agriculture offset program in order to implement Ordinance 3246.

BACKGROUND

On October 1, 2013, your Board directed the Department to develop residential and irrigated agriculture water offset programs. These programs will be used to implement the Offset Clearance provisions of Ordinance 3246. This report 1) provides the status on a water conservation program for new development and 2) requests direction on the irrigated agriculture offset program proposed by the Upper Salinas-Las Tablas Resource Conservation District.

DISCUSSION

Status of New Development Offset Program

Staff is developing options for your Board to consider for implementation of the new development component of the water offset programs (see below for status of the irrigated agriculture program). This program is not just for new residential development. Other types of development, including commercial, institutional and processing uses that use groundwater are also affected by the ordinance and must offset their new water use. The program is being designed so that interior plumbing fixtures are replaced with more efficient models (e.g 1.28 gallon-per-flush (gpf) toilets in lieu of 3.5 gpf). Design of the program involves two key steps: 1. calculate water demand of new residential uses; and 2. calculate the water savings from replacement of fixtures.

New Residential Water Demand

New homes throughout California are subject to new building regulations called Cal Green. This law requires new homes to reduce their water use by 20% from an established baseline. Applying the 20% reduction to the baseline calculations indicates that new homes subject to Cal Green will use approximately 43 gallons per capita per day indoors. The 2010 census pegs the average household

population in the rural area at 2.6 persons per household. Based on these assumptions, total indoor household water use calculates to approximately 111 gallons per household per day.

Outdoor water use is very difficult to calculate and to average across rural properties. We have chosen the simplest method of including outdoor water use as a percentage of total household use. Indoor water use in North County represents approximately 40% of total water use. While this calculation was prepared in 2008 based on 2005 data, there is no updated, sourced information available that would change this assumption. Therefore, typical total household water use is assumed to be 280 gallons per household per day (111/.4). This is the standard volume of water that will need to be offset by each new dwelling unit to offset both interior and exterior water use. Other types of new development (e.g. commercial uses) will have their water demand calculated on a case by case basis.

Potential Water Savings from Basic Retrofits

The required offsets for new development can be accomplished through the replacement of older, less efficient water using indoor fixtures such as toilets, showerheads, and in some instances, washing machines and dishwashers.

Using the frequency of use of water fixtures per Cal Green and information on fixture use from the Pacific Institute, the savings from a typical retrofit of 3.5 gpf toilets to 1.28 gpf and 2.5 gallons per minute (gpm) showerheads to 2.0 gpm can be calculated as follows:

Toilets

3.5 gpf – 1.28 gpf = 2.2 gpf x 5 flushes/person x 2.6 persons per household = 28.6 gallons saved per day

Showerheads

2.5 gpm – 2.0 gpm = 0.5 gpm x 8 mins/person x 2.6 persons per household = 10.4 gallons saved per day

In this example, each house retrofitted with toilets and showerhead saves 39 gallons per day (28.6 + 10.4) and can deliver 39 gallons of offset credits. About seven houses would need to be retrofitted in this manner to save the approximately 280 gallons per day used by one new dwelling unit.

Retrofitting of outdoor water uses such as landscape irrigation is more difficult to address. Water providers such as cities and special districts operate water systems and set water rates to include conservation programs such as “cash for grass” and subsidized irrigation efficiencies such as landscape moisture sensors and computerized controllers. The County is at a distinct disadvantage, as it has no water rates, operates no water systems and can offer no subsidies from water operations and rates.

It is recommended that the program start with interior retrofits. In the future, and depending on need and circumstances, the program can be considered for expansion to outdoor water use.

Retrofit Costs

A range of potential costs of retrofit credits can be estimated. The County will target homes constructed prior to 1994 when the water use standard for toilets was set at 3.5 gpf. Pre-1980 homes were constructed with 6.0 gpf toilets. However, the program is not expected to find many 6.0 gpf toilets as natural attrition has seen most of those old toilets already replaced in the intervening 33 years. Pre-1994 showerheads are up to 5.0 gpm and post-1994 showerheads are assumed to be 2.5 gpm.

As discussed above, each house retrofitted with toilets and showerheads can deliver 39 gallons per day of offset credits. If the standard retrofit consists of two toilets and two showerheads, material and labor costs should be in the range of $600 to $800 per retrofitted house. Since about seven homes would need to be retrofitted in this manner to save the amount of water used by one new dwelling unit (about 280 gallons per day), the total cost to offset the water use of one new dwelling unit would range from about $4,200 to $5,600.

Program Implementation

At this time, staff has identified three methods to implement the residential component of the offset program:

1. The County can contract with a licensed plumber to perform the retrofits. The County would implement, operate, monitor and report on the program's status periodically. In this option, builders would deal directly with the County without a middle man. However, there are liability, cost and prevailing wage issues to consider.

2. The County can contract with a private firm to implement, operate, monitor and report on the status of the program. An engineering firm with water system operational experience should be able to implement and run the program adequately. This option relieves the County of the program's liability and administrative burdens. However, this option may impose some additional expense on builders and may be less responsive to program problems or changes as they develop.

3. The County can allow each builder to find retrofits on his/her own. This has been done in Los Osos since 2008. The County would assist with some target marketing of the program to pre-1994 structures. However, each builder would hire a licensed plumber to perform the retrofits and certify them to the County. No bank would be created. This option places the burden on the builder and may result in difficulty in finding affordable and adequate retrofit targets.

Staff will fully analyze these three options in consultation with the Public Works Department and County Counsel and will report to your Board with a recommendation on February 11, 2014.

Irrigated Agriculture Offset Program

The Upper Salinas Las Tablas Resource Conservation District (RCD) has submitted a proposal at the Department's request to design and implement an irrigated agriculture offset program (see Attachment A). The proposal is comprehensive, well thought out and can be used into the future. The RCD's proposal will result in the irrigated agriculture offset program being launched in October 2014.

The RCD proposes to conduct in-depth research on water use that goes beyond the work on the recent groundwater model that is being completed by Public Works. While the program will provide accurate and detailed information on water use, water savings and costs for water savings, it will take until fall 2014 to complete and launch and will cost approximately $150,000. Currently, Department staff uses published water duties (e.g. 2009 Todd Pumping Update; 2012 Master Water Report) to issue Offset Clearances for crop conversions on the same property. These water duties are general and do not reflect individual practices that may affect water use. The results will be general and will not be as accurate as the RCD-proposed work.

While same-site crop conversion offsets can proceed now, offsets for new irrigated agricultural water use on heretofore unirrigated parcels must wait until a full offset program is designed and launched. The proposed RCD program is similar to the residential retrofit program but much more complex and long-term. The RCD proposal offers a detailed and accurate assessment of water use and "unique design and proximity parameters" and would look at:

1. Rural residential hobby farms
2. Crop conversions (same site)
3. New irrigated agriculture
4. Consumptive water use (e.g. ponds, ag processing, frost protection)

The work plan for Phase 1 (of 5 phases) includes the following steps to be completed in approximately three months:

1. Feasibility Analysis
    a. Impact Zone Study
    b. Historical water use and baseline mapping
2. Water banking program
3. Offset program framework
4. GIS mapping
5. Preliminary community outreach

Phase 2 is outreach and education and will present the draft program to interested parties and organizations. Phase 3 will complete the final program and Phase 4 will develop the protocols and procedures to implement the program. The final Phase 5 includes monitoring, tracking and reporting.

Due to the length of time it will take to develop this comprehensive program, the RCD has also developed a proposal for an interim program for irrigated agricultural water use (see Attachment B). This interim program would be used until the more comprehensive program is adopted in October 2014. The interim program addresses on site crop conversions and compares existing and future water use in a manner more detailed and comprehensive than the process currently used by staff.

Your Board should discuss both program proposals and give direction to staff to pursue the irrigated agriculture offset program and the interim program or to pursue some other offset program.

Offsite Water Markets

There has been some discussion on establishing a "water market." In instances were crops are being substituted, such as a new vineyard for existing alfalfa, additional water may be available after the new vineyard water use is offset. With high water-using crops such as alfalfa, pasture and some rotational crops, the additional credits beyond what is needed for the conversion can range into the hundreds of acre feet. Staff's view, however, is that establishment of an offsite water market for these additional credits is beyond the County's capability. Instead, an efficiency program of the kind proposed by the RCD is a more viable program.

OTHER AGENCY INVOLVEMENT/IMPACT

The County Department of Public Works and Counsel have been involved in the discussion of these issues.

FINANCIAL CONSIDERATIONS

Initial program costs will be funded from the Department budget. Development of the full program may require additional funding as the Department budget for fiscal year 2013-14 did not include these costs.

RESULTS

If your Board provides direction to staff to pursue an irrigated agriculture offset program, the contract with the Resource Conservation District will be brought to your Board at a future meeting for approval.

ATTACHMENTS

. Attachment A - RCD Offset Program Proposal
Attachment B - RCD Interim Offset Program Proposal